

Amendments to the Claims

1. (Currently Amended) An automatic toilet room flush valve, comprising:
a valve body including an inlet and an outlet and a valve seat inside said body;
a valve member cooperatively arranged with said valve seat, said valve member being constructed and arranged to control water flow between said inlet and said outlet, movement of said valve member between open and closed positions being controlled by water pressure inside a pilot chamber; and
an external cover designed for enclosing an electronic control module comprising a battery, and a sensor and said external cover ~~[[for]]~~ enclosing an actuator for controlling operation of said flush valve, said external cover including at least two cover parts separately removable, said external cover being attachable with respect to said valve body in a manner also removably attaching said control module including a plastic housing.

2. (Currently Amended) ~~An~~ The flush valve of claim 1 automatic toilet room flush valve, comprising:
a valve body including an inlet and an outlet and a valve seat inside said body;
a valve member cooperatively arranged with said valve seat, said valve member being constructed and arranged to control water flow between said inlet and said outlet, movement of said valve member between open and closed positions being controlled by water pressure inside a pilot chamber; and
an external cover designed for enclosing an electronic control module comprising a battery, and a sensor and for enclosing an actuator for controlling operation of said flush valve, said external cover including at least a main cover body and a top cover separately removable, said external cover being attachable with respect to said valve body in a manner also removably attaching said control module,
wherein both said main cover body and said top cover ~~parts~~ of said external cover being removable to enable separate servicing and replacement of said control module ~~cover parts~~ while maintaining said water pressure in said pilot chamber.

3. (Original) The flush valve of claim 1 wherein said external cover includes said cover parts forming a main cover body, a front cover and a top cover, said front cover including a sensor window.

4. (Original) The flush valve of claim 2 wherein said main cover body provides overall rigidity to said external cover.

5. (Currently Amended) The flush valve of claim 2 further including a wherein ~~said top cover is removable while maintaining said~~ front cover including a sensor window ~~located in place with respect to said main cover body.~~

6. (Currently Amended) The flush valve of claim 5 wherein said sensor is an optical sensor and said sensor window includes **[[in]]** an optical window.

7. (Original) The flush valve of claim 6 further constructed to adjust detection sensitivity of said sensor while maintaining said optical window located on said main cover body.

8. (Original) The flush valve of claim 2 wherein said top cover includes at least one side surface designed for facilitating removal of said top cover.

9. (Original) The flush valve of claim 2 wherein said top cover is attached with respect to said valve body using at least one screw.

10. (Original) The flush valve of claim 9 wherein tightening of said at least one screw attaches said main cover body, said front cover, and said top cover to a pilot cap defining said pilot chamber and being attached to said valve body.

11. (Original) The flush valve of claim 2 wherein said top cover includes a button constructed to move between upper and lower positions and designed for manually triggering a flush cycle when pushed to said lower position.

12. (Original) The flush valve of claim 11 further including a removable element designed for shipping and storage, said removable element being positioned to retain said button in said lower position when assembling said top cover.

13. (Currently Amended) The flush valve of claim 1 or 2 wherein said valve member includes a piston.

14. (Currently Amended) The flush valve of claim 1 or 2 wherein said valve member includes a flexible diaphragm.

15. (Currently Amended) The flush valve of claim 14 wherein said flexible diaphragm includes a centrally located passage connecting a **[[said]]** relief passage and said outlet, said flexible diaphragm being retained with respect to said valve body by a pressure cap defining said pilot chamber.

16. (Currently Amended) The flush valve of claim 15 including a bypass orifice in said diaphragm connecting said inlet with a **[[said]]** pressure chamber inside said pressure cap, said orifice having a cross section area smaller than that of said passage.

Claims 17 – 22 cancelled

23. (Currently Amended) In an automatic toilet flush valve including a body having an inlet and an outlet, a valve assembly in said body constructed and arranged to open and close water flow from said inlet to said outlet upon actuation signals provided by an electronic system to an actuator, said automatic flush valve comprising:

a pressure cap defining a pilot chamber in communication with said outlet output via a relief passage controlled by said actuator receiving drive signals from said electronic system; and

a cover, mounted above said pressure cap, constructed to provide housing for said electronic system, ~~said cover including an external flow passage for water flow from inside to outside of said cover,~~ said cover being removable while maintaining water pressure inside said pressure cap and enabling replacement of said electronic system while maintaining said maintaining water pressure inside said pressure cap.

24. (Currently Amended) In an automatic toilet flush valve including a body having an inlet and an outlet, a valve assembly in said body constructed and arranged to open and close water flow from said inlet to said outlet upon actuation signals provided by an electronic system to an actuator, said automatic flush valve comprising:

a pressure cap defining a pilot chamber in communication with said outlet output via a relief passage controlled by said actuator;

a sensor, included in said electronic system, constructed to detect a user located in front of said flush valve and designed to provide control signals to said electronic system, said electronic system being constructed to provide drive signals to said actuator; and

a cover mounted above said pressure cap and constructed to provide housing for said electronic system, said cover being designed cooperatively with said electronic system to enable sensitivity adjustment of said sensor without removal of said cover.

25. (Original) The automatic flush valve of claim 23 or 24 wherein said sensor includes an infrared sensor.

26. (Original) The automatic flush valve of claim 23 or 24 wherein said sensor includes a presence sensor.

27. (Original) The automatic flush valve of claim 23 or 24 wherein said sensor includes a motion sensor.

28. (Currently Amended) The automatic flush valve of claim 23 wherein said cover includes a main cover body, a front cover and a top cover, said front cover including a sensor window ~~is mounted above said pressure cap and is removable while maintaining water pressure in said pilot chamber .~~

29. (Currently Amended) The automatic flush valve of claim 23 or 24 wherein said valve assembly includes a flexible diaphragm fixed relative to said pressure cap, said valve assembly including a bleed vent passage in said flexible diaphragm in communication with said pilot chamber and being controllably sealable by said actuator.

30. (Currently Amended) The automatic flush valve of claim 29 wherein said bleed vent passage includes a flexible member extending between a pilot chamber cap and said bleed vent passage in said flexible diaphragm, said flexible member including a seal remaining stationary during movement of said flexible diaphragm between open and closed positions of said flush valve.

31. (Original) The automatic flush valve of claim 30 wherein said flexible member is a hollow tube.

32. (Original) The automatic flush valve of claim 31 including a spring positioned within said hollow tube.

33. (Original) The automatic flush valve of claim 32 wherein said spring is a coiled wire.

34. (Original) The automatic flush valve of claim 23 or 24 wherein said actuator is an isolated actuator.

35. (Original) The automatic flush valve of claim 23 or 24 wherein said valve assembly includes a filter for filtering water passing toward said actuator.

36. (Original) The automatic flush valve of claim 32 wherein said filter is attached to said flexible diaphragm.